Amendments to the Claims

1. (Withdrawn) A method for disinfecting water, comprising delivering ozone into the water.

2. (Withdrawn) Apparatus for generating ozone, comprising a plurality of electrodes separated by an electrically non-conductive medium, and wherein the discharge points between electrodes are very small.

3. (Withdrawn) The apparatus of claim 2, comprising means for accurately supporting and spacing of the electrodes.

4. (Withdrawn) The apparatus of claim 3, comprising means for setting tolerance limits on the apparatus.

5. (Withdrawn) Apparatus for generating ozone, comprising means to distribute charge over a large portion of an ozone generator device/reactor to provide substantial uniformity of discharge.

6. (Withdrawn) The apparatus of claim 5, said means to distribute comrising electrodes and a reactor housing for assuring the flow of gas through the discharge.

7. (Amended) An electrical discharge device to ionize a fluid, comprising:

a first electrode having a number of discharge sites at which electrons may accumulate to discharge electrically as electric arcs into the fluid, wherein said first electrode is adapted to provide a current limiting effect during such discharge, and

a charging path to supply current to the discharge sites,

wherein the discharge sites and charging path are related for charging the discharge sites in electrical series and discharging the discharge sites in electrical parallel.

8. (Previously Presented) The electrical discharge device of claim 7, the first electrode comprising a plurality of input electrodes and the electrical discharge device further comprising a pair of counter electrodes.

9. (Amended) The electrical discharge device of claim 8, wherein at least one of the plurality of input electrodes is a metal wire. [~~(Original)~~]

10. (Previously Presented) The electrical discharge device of claim 8, wherein the pair counter electrodes comprise of an electrically conductive material on a dielectric material.

11. (Original) The electrical discharge device of claim 8, wherein at least one of the counter electrodes is mounted on an electrically non-conductive dielectric tube.

12. (Original) The electrical discharge device of claim 11, wherein the dielectric tube is glass.

13. (Previously Presented) The electrical discharge device of claim 7, further comprising a holder to hold the first electrode to maintain its shape.

14. (Original) The electrical discharge device of claim 13, wherein the first electrode is wrapped around the holder.

15. (Original) The electrical discharge device of claim 14, wherein the holder is electrically non-conductive.

16. (Original) The electrical discharge device of claim 14, wherein the holder is comprised of a plurality of protrusions and a plurality of recesses.

17. (Previously Presented) The electrical discharge device of claim 16, wherein the input electrode is wound around the holder as a helical coil.

18. (Previously Presented) The electrical discharge device of claim 16, further comprising a dielectric tube having an interior wall, the holder and the first electrode are within the dielectric tube, at least one spacer disk to minimize air flow in the holder and dielectric tube and to contain the air flow to the space between the recesses of the holder and the interior wall of the dielectric tube.

19. (Previously Presented) The electrical discharge device of claim 7, further comprising a counter electrode, and wherein the first electrode is woven into an electrically non-conductive fabric located relative to the dielectric and the counter electrode.

20. (Original) The electrical discharge device of claim 7, wherein the first electrode is a wire in helical shape.

21. (Original) The electrical discharge device of claim 7, the first electrode being located in a tube off center from the tube axis.

22. (Original) The electrical discharge device of claim 21, wherein the tube is a dielectric material, and a further electrode is outside the interior of the tube.

23. (Original) The electrical discharge device of claim 22, wherein the further electrode is a conductor wrapped about at least a portion of the exterior of the tube.

24. (Original) The electrical discharge device of claim 22, wherein the further electrode has discontinuities therein to cause discontinuity in electric field between the first and further electrodes.

25. (Previously Presented) The electric discharge device of claim 7, further comprising a counter electrode for cooperating with the first electrode to establish electric field therebetween when electrically energized, a dielectric tube separating the counter electrode and the first electrode, and wherein the first electrode is located at least partly in the tube in off-center relation to the counter electrode whereby portions of the first electrode are in closer proximity to the counter electrode than other portions of the first electrode thereby to define respective discharge sites by those portions of the first electrode that are in such closer proximity to the counter electrode.

26. (Withdrawn) A method of ionizing a fluid, comprising

directing the fluid in a flow path while providing a number of separate electrical discharges into the fluid at different respective sites along the flow path.

27. (Withdrawn) The method of claim 26, wherein flow path and discharges occur in one tube.

28. (Withdrawn) The method of claim 26, further comprising mixing the fluid as it travels along the flow path while electrical discharges occur therein.

29. (Withdrawn) A discharge system, comprising

a pair of electrodes between which electrical discharge may occur to ionize a medium that is to be provided to a fluid,

at least one of the electrodes comprising the fluid,

an input to the electrodes to provide electrical potential to provide for electrical discharge between the electrodes.

30. (Withdrawn) The discharge system of claim 29, further comprising a hollow dielectric tube to provide for the delivery of air as the fluid to the system.

31. (Withdrawn) The discharge system of claim 30, wherein the dielectric tube has an air inlet and an exit, the tube has a number of openings therein as part of a flow path therein, and wherein the size and number of openings in the dielectric tube is coordinated with the amount of air flowing through the discharge system such that the

cross-sectional area of the sum of the openings is substantially equal to the size of the exit area of the source of air flow.

32. (Withdrawn) The discharge system of claim 29, comprising an electrical conductor cooperative with the non-fluid electrode to establish an electric field.

33. (Withdrawn) The discharge system of claim 32, wherein the electrical conductor circumscribes at least part of the tube.

34. (Withdrawn) The discharges system of claim 33, wherein the electrical conductor includes discontinuous areas to effect a separation electrically in the sections of electrical discharge by the non-fluid electrode.

35. (Withdrawn) An electrical discharge system for providing a discharge into one fluid for delivery into a second fluid, comprising

a first electrode exposed to the one fluid,

a second electrode,

a dielectric material separating the electrodes, and

wherein the dielectric material is part of a check valve separating the one and second fluids.

36. (Withdrawn) The system of claim 35, wherein the second electrode comprises at least part of the second fluid.

37. (Withdrawn) The system of claim 36, further comprising a check valve separating the first and second fluids allowing the one fluid to flow through the check valve into the second fluid, wherein an electrical discharge occurs into the one fluid at the check valve thereby to provide ionized medium at the check valve for direct delivery into the second fluid.

38. (Withdrawn) The system of claim 37, wherein the time for delivery of the ionized medium into the second fluid is less than about one second to provide for such delivery prior to recombination of the ionized medium.

39. (Withdrawn) The system of claim 35, wherein the second fluid is the second electrode.

40. (Withdrawn) The system of claim 39, wherein the second fluid provides cooling for the dielectric material.

41. (Withdrawn) The system of claim 35, wherein the dielectric material is flexible.

42. (Withdrawn) The system of claim 35, further comprising a check valve separating the one and second fluids, the check valve including a seat, and at least one of the seat and the dielectric material is movable relative to the other.

43. (Withdrawn) The system of claim 35, further comprising a check valve separating the one and second fluids, and wherein the electric discharge occurs in close proximity to the check valve to ionize the one fluid for direct delivery as ionized medium into the second fluid prior to recombination of the ionized medium.

44. (Withdrawn) The system of claim 35, wherein the dielectric material is attached to the first electrode

45. (Withdrawn) The system of claim 44, further comprising a hollow dielectric tube to provide for the delivery of air to the system.

46. (Withdrawn) The system of claim 45, said dielectric tube is connected to a source of air flow and to one of the electrodes, and further comprising an elastomeric plug in the dielectric tube cooperative with the dielectric tube as a check valve.

47. (Withdrawn) A method of providing an ionized species into a fluid, comprising initiating an electrical discharge into the fluid at different respective sites along a flow path to ionize at least some of the fluid as such ionized species.

48. (Withdrawn) The method of claim 47, wherein the flow path and electrical discharge are in an elongate tube.

49. (Withdrawn) The method of claim 48, comprising directing a fluid along a flow path in the tube while an electrode in the tube and an electrode external of the tube create an electric field therebetween and the electrode in the tube discharges into the fluid.

50. (Withdrawn) The method of claim 49, wherein the electrode in the tube has a number of electrical discharge sites that charge generally in electrical series and discharge substantially electrically isolated form each other.

51. (Withdrawn) The method of claim 48, further comprising passing air along the flow path through a gap between the wall of the tube and an electrode in the tube to ionize at least one constituent of the air.

52. (Withdrawn) The method of claim 51, wherein the ionized constituent is oxygen to form ozone.

53. (Withdrawn) The method of claim 52, comprising delivering the ozone through a check valve into a second fluid.

54. (Withdrawn) The method of claim 52, wherein the distance between the gap and the location where the ozone is delivered into the second fluid is small to enable such delivery prior to recombination of the ozone.

55. (Withdrawn) The method of claim 51, wherein the electrical discharges are generated in a predetermined sequence relative to the size and number of gaps.

56. (Withdrawn) The method of claim 55, wherein the electrical discharge occurs in the smallest size gap first.

57. (Withdrawn) The method of claim 55, wherein the electrical discharge occurs in the largest gap last.

58. (Withdrawn) The method of claim 52, wherein the delivery of ozone is into the second fluid is in diffuse manner.

59. (Withdrawn) The method of claim 58, wherein the diffuse delivery of ozone into the second fluid is carried out via an air stone.

60. (Withdrawn) The method of claim 47, further comprising mixing fluid flowing along the flow path.

61. (Withdrawn) The method of claim 60, said mixing comprising using at least part of an electrode in the flow path to effect mixing.

62. (Withdrawn) An electrical discharge device for ionizing a first medium for delivery into a second medium, comprising

a first electrode,

a second electrode,

a dielectric between the electrodes,

wherein the electrodes are separated by a gap to provide electrical potential difference to allow an electrical discharge into the first medium, and

a check valve for selective flow control of the first medium into the second medium and for adjusting the size of the gap.

63. (Withdrawn) The device of claim 62, wherein the first and second electrodes provide electric field when coupled to an electrical power supply, and one of the first medium and second medium is an electrode into which electrical discharge occurs.

64. (Withdrawn) The system of claim 62, wherein the check valve comprises a tube and a plug in the tube, and wherein at least one of the tube and plug comprise flexible material.

65. (Withdrawn) The system of claim 64, wherein the flexible material comprises the dielectric.

66. (Withdrawn) The system of claim 62, wherein the check valve comprises a relatively rigid material and a seat, and wherein at least one of the relatively rigid material and the seat is movable relative to the other.

67. (Withdrawn) The system of claim 66, wherein the second medium comprises the second electrode.

68. (Withdrawn) The system of claim 66, wherein the relatively rigid material comprises the dielectric.

69. (Withdrawn) The system of claim 62, further comprising a plurality of gaps to provide electrical potential difference to allow an electrical discharge into the first medium.

70. (Withdrawn) The system of claim 62, wherein there is a plurality of the first electrodes and a plurality of the second electrodes.

71. (Withdrawn) The system of claim 62, wherein the first electrode is electrically conductive.

72. (Withdrawn) The system of claim 71, wherein the first electrode is a hollow electrically conductive tube.

73. (Withdrawn) The system of claim 72, wherein the cross-sectional area of the interior volume of the electrically conductive tube electrode is smaller than the cross-sectional area of the zone in which the ionized medium is discharged into the second medium.

74. (Withdrawn) The system of claim 73, further comprising an air pump attached to the distal end of the electrically conductive tube electrode.

75. (Withdrawn) The system of claim 62, wherein the first electrode is a liquid electrode.

76. (Withdrawn) The system of claim 75, wherein the liquid electrode is contained in a dielectric tube.

77. (Withdrawn) The system of claim 76, wherein the first electrode is located coaxially within the dielectric tube.

78. (Withdrawn) The system of claim 62, further comprising a power source to supply a voltage between the electrodes to cause at least one electrical discharge.

79. (Withdrawn) The system of claim 78, wherein the power source is a high voltage alternating current power supply.

80. (Withdrawn) A method of ionizing a fluid, comprising

directing a first fluid into a second fluid via a check valve that has a movable portion to allow fluid flow in a give direction, and

providing an electrical discharge between first and second electrodes into said first fluid, and

wherein the second fluid is one of the electrodes.

81. (Withdrawn) A method of claim 80, wherein the first fluid is air, and further comprising pumping air through the check valve.

82. (Withdrawn) A method of claim 80, further comprising using the second fluid to provide cooling of heat created by electrical discharges.

83. (Withdrawn) A method of claim 80, further comprising providing an electrical input between the first electrode and the second electrode to cause electrical discharge.

84. (Withdrawn) A method of claim 80, wherein at least part of the check valve is one of the electrodes and further comprising self-centering the check valve electrode during use.

85. (Withdrawn) An electrical portable fluid treatment device, comprising

a fluid flow device immersible into a treatable fluid,

a pump to pump an ionizable fluid through the fluid flow device into the treatable fluid, and

an electrode arrangement to provide a potential difference to allow an electrical discharge to occur below the surface of the treatable fluid in response to an electrical input to ionize the ionizable fluid flowing through the fluid flow device.

86. (Withdrawn) The device of claim 85, wherein the fluid is water and the fluid flow device is a tube immersible into the water during use.

87. (Withdrawn) The device of claim 85, further comprising an electrical power supply detachable from the electrode arrangement.

88. (Withdrawn) The device of claim 85, further comprising a battery electrical power supply.

89. (Withdrawn) The device of claim 88, further comprising a timer to shut down the electrical power supply after a prescribed time.

90. (Withdrawn) The device of claim 85, said electrode arrangement including a first electrode and an electrical connection to the treatable fluid as a second electrode, and wherein at least part of the fluid flow device is a dielectric separating the electrodes and separating the ionizable fluid and the treatable fluid.

91. (Withdrawn) The device of claim 85, further comprising an electrical power supply, and a ground circuit for the electrical power supply is connected to disable the power supply unless the electrode arrangement and the electrical power supply are interconnected.

92. (Withdrawn) The device of claim 85, further comprising one or more openings in the fluid flow device to provide an outlet for fluid flow.

93. (Withdrawn) The device of claim 85, wherein the electrode arrangement includes a portion of the treatable fluid.

94. (Withdrawn) The device of claim 93, wherein the treatable fluid provides cooling of heat generated by electrical discharges.

95. (Withdrawn) A device for discharging electrons into a flowing fluid, comprising

an electrode arrangement supplying electrons into the flowing fluid, and

a mixer mixing the fluid as electrons are supplied thereto.

96. (Withdrawn) The device of claim 95, wherein the electrode arrangement supplies electrons to the fluid at a number of different places spread out along the flow path.

97. (Withdrawn) A method of providing electrical discharge to a flowing fluid, comprising,

directing fluid along a flow path,

providing electrical discharge into the fluid at a number of places along the flow path, and

providing for fluid mixing along the flow path between respective places.

98. (Withdrawn) An electrical discharge device for discharging into a fluid, comprising a container for a fluid therein, a first electrode in the container to receive electrical charge, the electrode having a number of discharge sites separated by sections of electrical conductor therebetween, a further electrode cooperative with the first electrode to establish electric field therebetween, wherein the discharge sites are positionally closer to the further electrode than are the sections of electrical conductor thereby to tend to allow the discharge sites to charge in electrical series and to discharge substantially independently.

99. (Withdrawn) The device of claim 98, wherein the discharges sites during discharging act as distributed capacitance along a length of the electrode.

100. (Withdrawn) The device of claim 98, wherein the container comprises an elongate tube.

101. (Withdrawn) The device of claim 100, further comprising a motionless mixer in the tube.

102. (Withdrawn) The device of claim 101, wherein the electrode is elongate having an axis and extends along the tube, and wherein the electrode comprises a twisted wire having portions functioning as discharge sites and portions functioning as the electrical conductor therebetween, and respective adjacent discharge sites being and different angular relation to each other about the axis.

103. (Withdrawn) The device of claim 101, wherein the electrode is a wire coiled about a dielectric rod.